

## **ABSTRACT**

A system, method and apparatus for sampling an electromagnetic signal is provided. In one embodiment of the present invention, data is obtained from an electromagnetic signal by sampling the received signal and demodulating the signal without mixing the signal with a second electromagnetic signal. One feature of the present invention is that the signal may be sampled at a rate ranging between about 10 pico-seconds to about 500 pico-seconds. This Abstract is provided for the sole purpose of complying with the Abstract requirement rules that allow a reader to quickly ascertain the subject matter of the disclosure contained herein. This Abstract is submitted with the explicit understanding that it will not be used to interpret or to limit the scope or the meaning of the claims.